

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001251**Date Inspected:** 11-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Orthotropic Box Girders (OBG).

Bay 2 77M Tower Mock Up:

The QA Inspector randomly observed ZPMC welder Xie Yong Liu ID Number 048882, utilizing the Submerged Arc Welding (SAW) Process with ZPMC approved Weld Procedure Specification (WPS)

WPS-B-T-2221-C-U2b-S in the 1G position to weld the fill passes in WJ MUA-MA1D/F-13B of Skin Plate Assembly MA1. The QA Inspector randomly observed ZPMC CWI Wu Ming Kai, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 730 amps, welding voltage 33 volts with a travel speed of 662 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

89M Tower Mock Up:

The QA Inspector randomly observed ZPMC welder Fu Yanjie ID Number 066268, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 3G position, to weld the 89M Skin Plate Assembly WJ MUB-MA21J/J-38. The QA Inspector randomly observed ZPMC CWI Wu Ming Kai, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 184 amps, welding voltage 24.1 volts with a travel speed of 113 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

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114M Tower Mock Up:

The QA Inspector randomly observed ZPMC welding personnel removing the corners of one of the temporary diaphragms on the 114M Upper Skin Plate Assembly, at the junctions of Skin Plates D/C and C/B. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC helpers utilizing grinders to blend the tack welds attaching corner stiffeners MA103-1 and MA104-1, in the 114M lower Skin Plate Assembly, at the junctions of Skin Plates D/C (WJ MUA-MA107B/C-3B) and C/B (WJ MUB-MA107D/C-2B). The attached photograph provides additional detail.

Bay 3 OBG:

The QA Inspector randomly observed ZPMC welder Wang Zhong ID Number 053753, utilizing the SMAW Process with ZPMC approved WPS WPS-B-P-2112FCM in the 2F position to weld I-Ribs to Side Plate SP002/PL69A. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Liu Zhihong ID Number 02447, utilizing the Flux Cored Arc Welding (FCAW) Process with ZPMC approved WPS WPS-B-T-2132-2 in the 2F position to weld T-Ribs to Side Plate SP14/PL44A. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welders Li Shu Liang ID Number 049910, Xin Meng ID Number 053742 and Li Zhaoqian ID Number 048801, utilizing the FCAW Process with gantry mounted automatic welding apparatus in the 2F position to weld T-Ribs to Side Plate SP17/PL76B. The QA Inspector randomly observed ZPMC CWI Wu Ming Kai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded the averaged parameters as follows: welding amperage 282/285 amps, welding voltage 30/30 volts (WJ's SP017-01-028, 029) for Mr. Shu Li, 280/290 amps, 30/30 volts (WJ's SPO17-01-032, 033) for Mr. Xin and 280/277 amps, 30/29 volts (WJ's SP017-01-036, 037) for Mr. Zhaoqian Li. Travel speed was 530 mm per minute for all 3 welders on all 6 WJ's. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

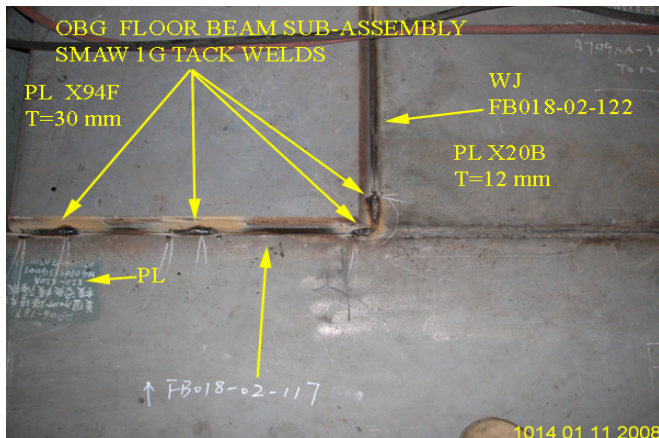
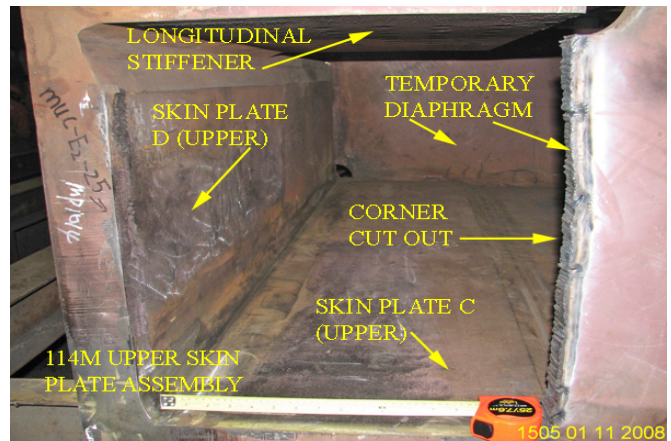
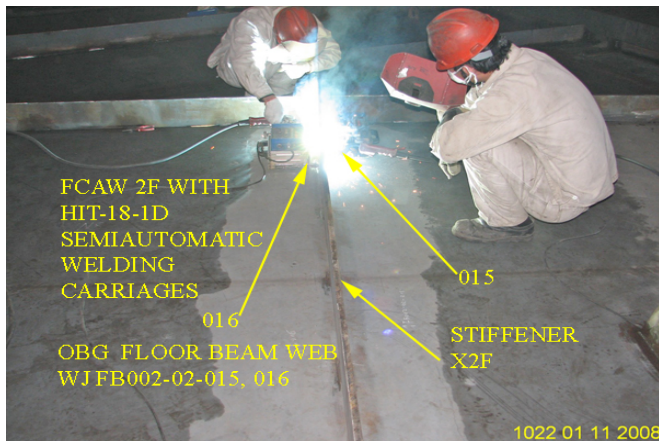
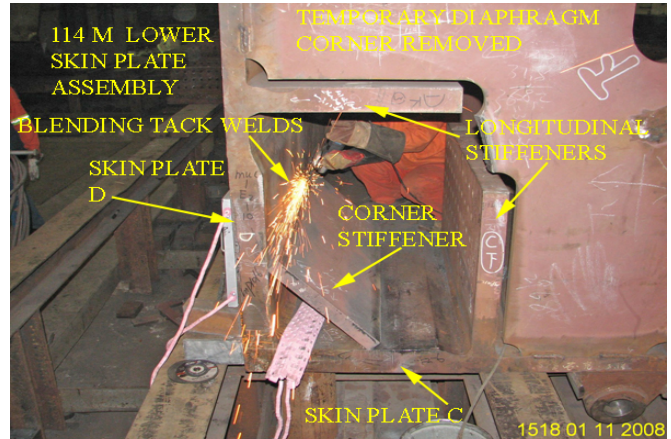
Bay 7 OBG:

The QA Inspector randomly observed ZPMC welder Hu Yacheng ID Number 049339, utilizing the SMAW Process with ZPMC approved WPS WPS-B-P-2211-U2-FCM in the 1G position on Floor Beam Sub-Assembly WJ's FB018-02-017, 122. The QA Inspector randomly observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 176 amps, welding voltage 28 volts with a travel speed of 111 mm per minute. The weld parameters appeared to comply with contract requirements. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

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The QA Inspector randomly observed ZPMC welders Hong Shuili ID Number 044815 and Yuan Wensong ID Number 055491, utilizing the FCAW Process with ZPMC approved WPS WPS-B-T-2132-3 in the 2F position with HIT-18-1D Automatic Welding Carriages, to weld Stiffener X2F to Floor Beam Web FB002-02 at WJ's FB002-02-015, 016. The QA Inspector randomly observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 325 amps, welding voltage 29.5 volts with a travel speed of 447 mm per minute for Mr. Hong and 298 amps, 29.3 volts with a travel speed of 449 mm per minute for Mr. Yuan. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.



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Summary of Conversations:

As noted in the above body of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Franco,Charlie
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Quality Assurance Inspector

Reviewed By:	Cochran,Jim
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QA Reviewer
